



OSAC Meeting
Leesburg, VA
January 29, 2016



SWGDM Update to Biology/DNA SAC and Subcommittees

John M. Butler, Ph.D.

National Institute of Standards and Technology

NIST Fellow & Special Assistant to the Director for Forensic Science

Vice-Chair, National Commission on Forensic Science

Member, OSAC Biology/DNA Scientific Area Committee

OSAC Liaison to SWGDAM

Associate Editor, *Forensic Science International: Genetics*

OSAC Update Presentations Given to SWGDAM

- An update is provided by John Butler to SWGDAM at each meeting about recent OSAC efforts as well as National Commission on Forensic Science and NIST activities
- Slides are available on the STRBase website:
 - http://www.cstl.nist.gov/strbase/pub_pres/SWGDAM-Updates-NCFS-BiologySAC-July 2015.pdf
 - http://www.cstl.nist.gov/strbase/pub_pres/Butler-SWGDAM-Jan2016.pdf

SWGDM.org website

Scientific Working Group on DNA Analysis Methods (SWGDM)

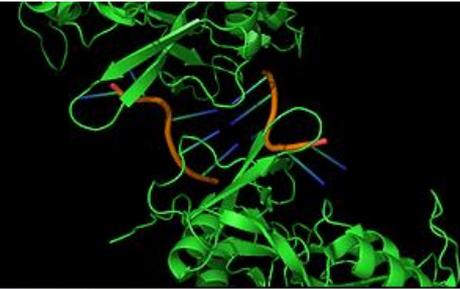
HOME

ABOUT US

PUBLICATIONS

PUBLIC COMMENTS

CONTACT



SWGDM Chair
Anthony Onorato
Anthony.Onorato@ic.fbi.gov

SWGDM Mission Statement

The Scientific Working Group on DNA Analysis Methods, known as SWGDM, serves as a forum to discuss, share, and evaluate forensic biology methods, protocols, training, and research to enhance forensic biology services as well as provide recommendations to the FBI Director on quality assurance standards for forensic DNA analysis.



Upcoming Meetings

SWGDM Regular Meeting
January 12-14, 2016
Preliminary Agenda



SWGDM Photo Taken at **July 2015** Meeting



- SWGDAM meets semi-annually (January & July)
- ~80 people participating at each meeting

SWGDM Committees & Working Groups

In my role as OSAC liaison to SWGDAM, I have the opportunity to briefly visit each group and learn about their activities

	Committees/Working Groups	Primary Focus
1	Autosomal STR Interpretation	Revising 2010 guidelines to help mixture interpretation (89 page document with examples is close to completion)
2	CODIS	Discussing automated hit counting, threshold-based searching, and revisions to database QAS
3	Enhanced Detection Methods & Interpretation (EDMI)	Preparing document on contamination prevention and control
4	Quality Assurance	Preparing draft revisions to the forensic QAS
5	Rapid DNA	Reviewing rapid DNA progress (instruments and legislation), discussing potential pilot studies
6	Y-STR	Working on Y-STR mixture guidelines
7	Next-Gen Sequencing WG	Monitoring development of NGS
8	SAFER Sexual Assault WG	Providing recommendations to NIJ on laboratory processing of sexual assault evidence kits
9	Ad Hoc “Committee of Detail”	Preparing QAS clarification document for NDIS to handle re-interpretation of historical data

Recent SWGDAM Meeting

July 14-16, 2015

- **Main session:** History of FBI DNA activities (Dwight Adams, Tom Callaghan), TWGDAM/SWGDAM (Ken Konzak, Dave Coffman), DNA Identification Act of 1994 (Dawn Herkenham), Quality Assurance Standards (Doug Hares, Jocelyn Carlson)
- **Committee Work (all-day Wednesday)**
- **Roundtable:** FBI allele frequency changes (Tamyra Moretti, John Buckleton), MN missing persons case (Ann Gross), DNA from cartridge cases (Shawn Montpetit), GlobalFiler validation (Jason Kokoszka), TrueAllele test scandal (Ray Wickenheiser), Differential extractions (Bill Hudlow), Familial searching (Gary Molina), New York State Forensic Science Commission (Dawn Herkenham)
- **Committee updates:** CODIS (Darrell Oubre), EDMI (Dixie Peters), Next-Gen (John Tonkyn), QA (Jocelyn Carlson), Rapid DNA (Taylor Scott), Y-STR (Tamyra Moretti), Autosomal STR Interpretation (Joel Sutton)
- **Other updates:** NIJ (Minh Nguyen), ENFSI DNA Working Group (Roman Hardil), NIST Applied Genetics Group (Mike Coble & Pete Vallone), Legislative (Dawn Herkenham), UK Home Office (Adam Shariff), OSAC-NCFS-NIST (John Butler)
- **12 page meeting report** is available on SWGDAM website at http://media.wix.com/ugd/4344b0_99742207c78344c7b1948225492d1e3e.pdf

Recent SWGDAM Meeting

January 12-14, 2016

- **Main sessions:** Potential QAS revisions discussed (Jocelyn Carlson and members of the QA Committee); SWGDAM guidelines for the processing of sexual assault evidence kits in a laboratory (Amber Carr); review of revised Autosomal STR interpretation guidelines (Joel Sutton and members of the Autosomal STR Interpretation Committee)
- **Committee Work (most of Wednesday)**
- **Roundtable:** Subpopulation corrections (John Buckleton & James Curran), ICMP manufacturer's elimination database (Tom Parsons), DNA from fired cartridge casings (Shawn Montpetit), retrospective DNA review (Todd Bille), Texas Forensic Science Commission (Elizabeth Morris), familial searching (Gary Molina), Qiagen QIAcube differential extractions (Melissa Suddeth)
- **Committee updates:** Autosomal STR Interpretation (Joel Sutton), CODIS (Darrell Oubre), EDMI (Dixie Peters), Next-Gen (John Tonkyn), QA (Jocelyn Carlson), Rapid DNA (Pete Vallone), Y-STR (John Buckleton), SAFER Sexual Assault Kit WG (Amber Carr), Committee of Detail (Shawn Montpetit)
- **Other updates:** ISFG (Walther Parson), NIST Applied Genetics Group (Pete Vallone & Katherine Gettings), OSAC-NCFS-NIST (John Butler), NIJ (Minh Nguyen), DC Laboratory (Jenifer Smith), Legal Issues (Dawn Herkenham)

FBI Quality Assurance Standards (QAS) and OSAC Registry

- The FBI Director is Congressionally mandated by the DNA Identification Act of 1994 (Public Law 103-322) to **set requirements for participation in the National DNA Index System (NDIS)**, which was done through creation of the QAS in 1998/1999 by the DNA Advisory Board (DAB)
 - When the DAB's term expired in 2000, SWGDAM was given responsibility for revising the QAS and accompanying audit documents, which has been done in 2009 and 2011
- However, **SWGDAM and the FBI are not recognized SDOs (Standards Developing Organizations)** nor has the QAS gone through a full SDO-process
- Currently, OSAC has decided that **the QAS will not go through the OSAC Registry Approval process** as it has to be maintained by the FBI (according to Congressional mandate) and does not meet the SDO-process (as defined by the OSAC Quality Infrastructure Committee)
- The **FBI QAS do not prevent the development and implementation of OSAC standards/guidelines** that will complement the quality and integrity of the discipline that is currently viewed as the gold standard of forensic science.

Message to SWGDAM

from George Herrin (SAC Biology Chair)

- **We are very close to pushing 4-5 documents out of the various subcommittees** and up to the SAC for a vote at the end of the month in Leesburg.
- I would like to have the SAC work collaboratively with SWGDAM as they get closer to finalizing the next revision of QAS so that we can avoid potential conflicts.
- **We will be sending notice of the documents to all TL and SWGDAM members after the SAC has reviewed and decided to move forward with them.**
- I appreciate the contributions of those members of SWGDAM who are also serving as OSAC subcommittee members or affiliates.

SAC Biology/DNA Activity

Task Groups

Terminology (Buel)

Validation/Method (Weitz)

Education/Training (**Kadash**)

Sample Id & Collection (Zervos)

Terminology (Westring)

Statistical Interpretation (Zabell)

Probabilistic Genotyping (**Sutton**)

Software Validation (**Kehl**)

Mixture Interp Verification (Sobieralski/**Montpetit**)

Terminology (Baker/Hoofer)

Standards and Guidelines (O'Brien/Giles)

Report Writing (Trail/Giles)

Validation (Lindquist/Hoofer)

Subcommittees

Biological Methods (Murga)

Biological Data Interpretation
and Reporting (Ragsdale)

Wildlife Forensics (Moore)

Biology/DNA Scientific Area Committee

Terminology (**Della Manna**)

SAC Biology (Herrin)

OSAC Forensic Biology Glossary (Terminology) Document Under Review

Standard Forensic Biology / DNA Glossary

November 2015

http://media.wix.com/ugd/4344b0_da25419ba2dd4363bc4e5e8fe7025882.pdf

Interpretation Guidelines for Autosomal STR Typing: http://media.wix.com/ugd/4344b0_61b46a0e1a4c41ccb65f719a533b8e29.pdf

Validation Guidelines for DNA Analysis Methods: http://media.wix.com/ugd/4344b0_cbc27d16dcb64fd88cb36ab2a2a25e4c.pdf

The Biological Evidence Preservation Handbook: Best Practices for Evidence Handlers. 2013. Technical Working Group on Biological Evidence Preservation: <http://www.nist.gov/forensics/upload/NIST-IR-7928.pdf>

Reference to
SWGDM documents
is provided

Term	Definition	Source	Document
Accredited Laboratory	A DNA laboratory that has received formal recognition that it meets or exceeds a list of standards, including the FBI Director's Quality Assurance Standards, to perform specific tests, by a nonprofit professional association of persons actively involved in forensic science that is nationally recognized within the forensic community in accordance with the provisions of the Federal DNA Identification Act (42 U.S.C. § 14132) or subsequent laws.	QAS	
Accuracy	The degree of conformity of a measured quantity to its actual (true) value.	QAS; SWGDM	Validation Guidelines for Forensic DNA Analysis Methods
Additional Amplification Cycles	One or more amplification cycles beyond what the laboratory had validated in the Standard Method of its STR kit.	SWGDM - Modified by OSAC terminology	Guidelines for STR Enhanced Detection Methods

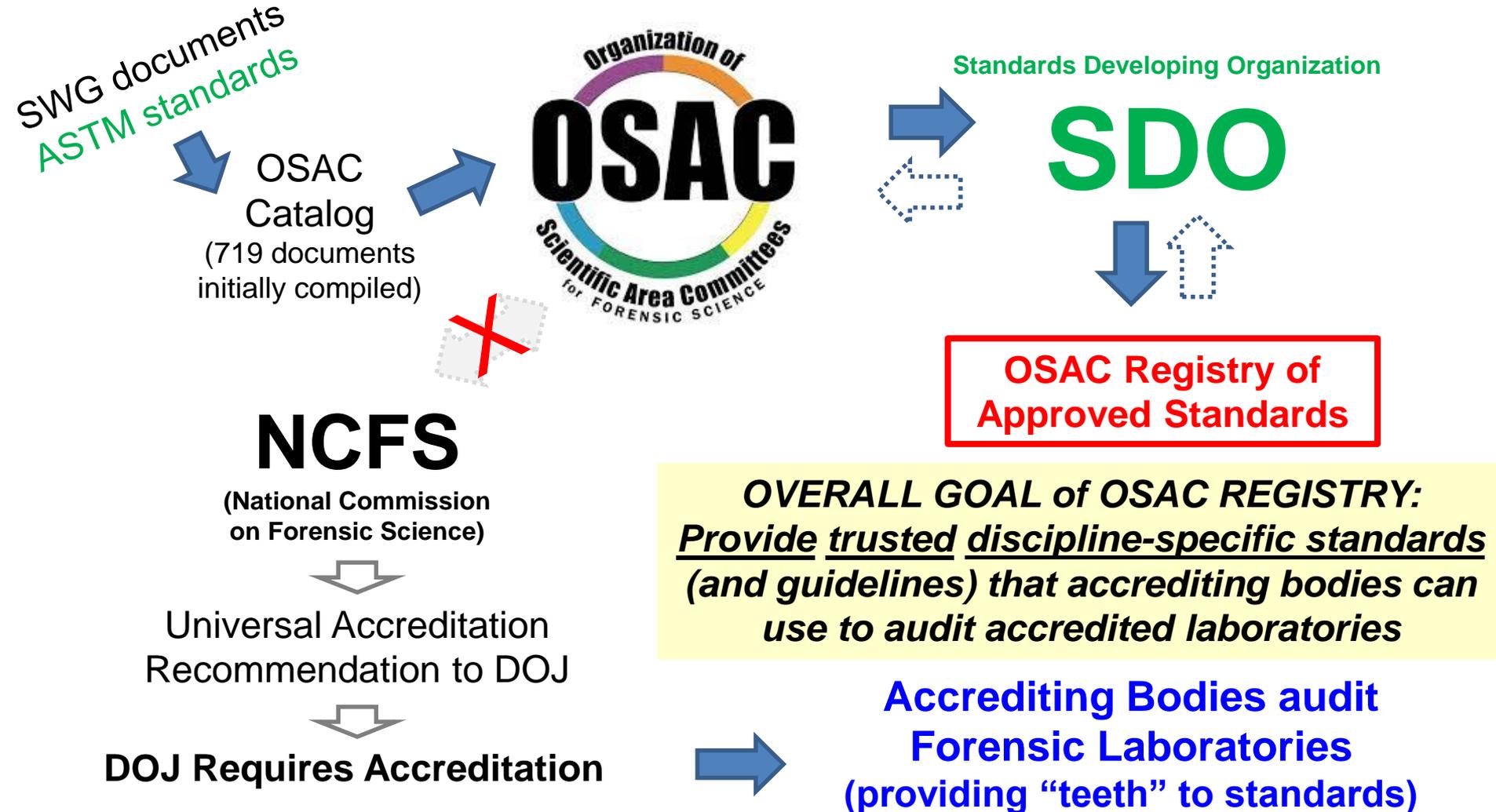
>400 definitions distilled
from ~1280 terms collected

A Big Picture View of OSAC Efforts

Provides initial starting material

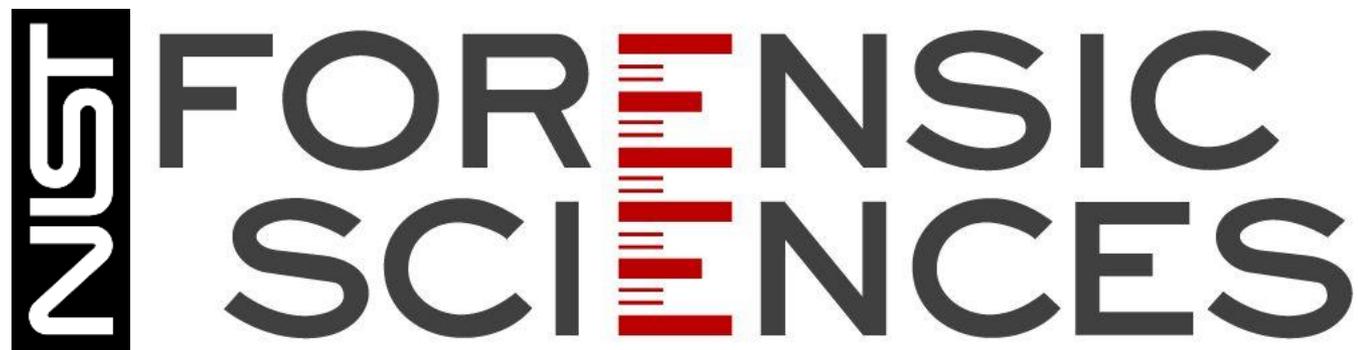
Creates high-quality guidance materials

Turns OSAC materials into standards

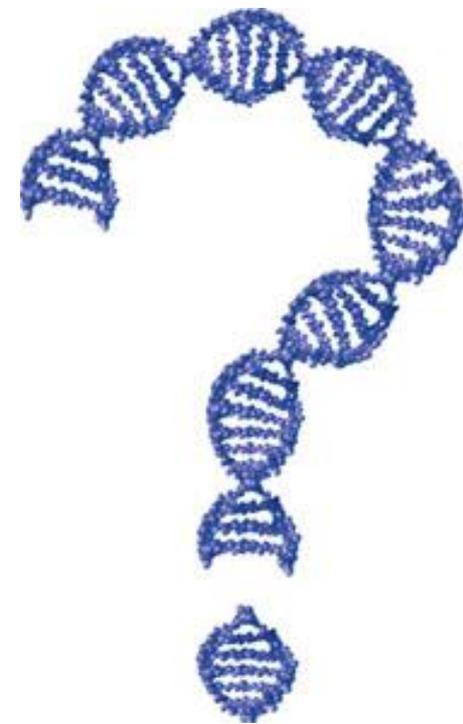


National Commission on Forensic Science (NCFS):
www.justice.gov/ncfs

Organization of Scientific Area Committees (OSAC):
www.nist.gov/forensics/osac/index.cfm



www.nist.gov/forensics



301-975-4049

john.butler@nist.gov